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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,896	10/08/2003	Toshihiko Ishigami	2562/71228/JPW/PJP/FHB	6288

7590 02/06/2006

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EXAMINER

WALFORD, NATALIE K

ART UNIT PAPER NUMBER

2879

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/680,896

Applicant(s)

ISHIGAMI ET AL.

Examiner

Natalie K. Walford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on December 16, 2005, has been entered and acknowledged by the Examiner.

Cancellation of claim 9 has been entered.

Claims 1-8 and 10-19 are pending in the instant application.

### ***Response to Arguments***

Applicant's arguments, see page 11 thru 12, filed December 16, 2005, with respect to the rejection(s) of claim(s) 1-19 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Anzai et al. (US 4,837,478).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 13, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Anzai et al. (US 4,837,478).

Regarding claim 1, Anzai discloses a metal vapor discharge lamp including: a refractory and light-transmitting hermetic vessel (column 3, lines 35-38); a pair of electrode (FIG. 1, item 2) fixed to the hermetic vessel; a discharge medium sealed in the hermetic vessel, the discharge medium containing a halide (column 6, lines 22-30), a rare gas substantially disusing mercury (FIG. 1, item 3); and most of light irradiated from the metal vapor discharge lamp having near-infrared wavelengths (750-1100 nm) (column 3, lines 48-54).

Regarding claim 2, Anzai discloses the metal vapor discharge lamp according to claim 1, wherein the halide contains a halide at least one potassium (K), cesium (Cs) and rubidium (Rb) which radiate light of near-infrared wavelengths (750-1100 nm) (column 6, lines 48-54).

Regarding claim 3, Anzai discloses the metal vapor discharge lamp according to claim 1, further including a visible-light blocking filter (FIG. 4, item 5).

Regarding claim 4, Anzai discloses the metal vapor discharge lamp according to claim 1, wherein a wattage rating of the metal vapor discharge lamp is 100 W or less (FIG. 3 and column 5, lines 8-12).

Regarding claim 13, Anzai disclose a projector including: a reflector (FIG. 5, item 10); a metal vapor discharge lamp (FIG. 5, item 1) as specified any one of claim 1 to 12, the metal vapor discharge lamp being provided on the reflector; and a light control member (Fig. 5, item 8) covering front surface reflector.

Regarding claim 16, Anzai discloses the projector according to claim 13, further including a visible-light blocking filter (FIG. 5, item 8) provided on at least one of front and rear surfaces of the light control member.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8, 10-12, 14-15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anzai et al. (US 4,837,478).

Regarding claim 5, Anzai discloses the metal vapor discharge lamp according to claim 1, but does not expressly disclose a distance between the pair of electrodes falls within a range of 1 mm to 6 mm, as claimed by Applicant. Anzai only discloses the length of the tube (column 3, lines 22-24). It would have been obvious to one having ordinary skill in the art at the time of invention to have the distance between the pair of electrodes between 1 and 6 mm, since discovering optimum or workable ranges involves only routine skill in the art.

Regarding claim 6, Anzai discloses a metal vapor discharge lamp including: a refractory and light-transmitting hermetic vessel (column 3, lines 35-38); a pair of electrode (FIG. 1, item 2) fixed to the hermetic vessel; a discharge medium sealed the hermetic vessel, the discharge medium containing a first halide (column 6, lines 22-30)

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and a rare gas (FIG. 1, item 3), the first halide containing a halide of at least one of sodium (Na), scandium (Sc) (column 6, lines 22-30) and a rare earth metal (column 6, lines 22-30) which radiate visible light (380-780 nm); a visible-light blocking filter (FIG. 4, item 5), but does not expressly disclose that a ratio of visible-radiation power (380-780 nm) to near-infrared radiation power (750 - 1100nm) falling within a range the visible-radiation power and the infrared radiation power being output when metal vapor discharge lamp is in an ON state, as claimed by Applicant. Anzai does disclose that a first halide can contain either sodium or scandium and a rare earth metal though. Since these items have been disclosed, they would exhibit the properties, which radiate visible light. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the ration between visible-radiation power and near-infrared power in order for the lamp to providing mostly near-infrared radiation as opposed to visible radiation power.

Regarding claim 7, Anzai discloses the metal vapor discharge lamp according to claim 6, wherein the discharge medium includes: a second halide (column 6, lines 22-30) which generates a relatively high vapor pressure and being a halide of at least one metal which emits visible light less than that emitted by the metal of the halide; a third halide (column 6, lines 22-30) containing halide of at least one metal which radiates near-infrared light; the discharge medium substantially disusing mercury.

Regarding claim 8, Anzai discloses the metal vapor discharge lamp according to claim 6, wherein the discharge medium contains a halide of least one of potassium (K),

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cesium (Cs), and rubidium (Rb) which radiate light of near-infrared wavelengths (750-1100 nm) (column 6, lines 22-30).

Regarding claim 10, Anzai discloses the metal vapor discharge lamp according to claim 6, wherein a wattage rating of the metal vapor discharge lamp is 100 W or less (FIG. 3 and column 5, lines 8-12).

Regarding claim 11, Anzai discloses the metal vapor discharge lamp according to claim 6, but does not expressly disclose a distance between the pair of electrodes falls within a range of 1 mm to 6 mm, as claimed by Applicant. Anzai only discloses the length of the tube (column 3, lines 22-24). It would have been obvious to one having ordinary skill in the art at the time of invention to have the distance between the pair of electrodes between 1 and 6 mm, since discovering optimum or workable ranges involves only routine skill in the art.

Regarding claim 12, Anzai discloses the metal vapor discharge lamp according to claim 6, wherein the rare gas is Xe, Xe of five atoms more being sealed in the hermetic vessel (column 4, lines 57-61).

Regarding claim 14, Anzai discloses the projector according to claim 13, but does not expressly disclose that the projector is installed in a vehicle and used as a headlamp, as claimed by Applicant. It would have been obvious to one having ordinary skill in the art at the time of invention was made to have the projector installed in a vehicle to use as a headlamp since it is known in the art that discharge lamps are commonly used in headlamps.

Regarding claim 15, Anzai discloses the projector according to claim 14, further including visible-light blocking means (FIG. 4, item 5) for blocking visible light and passing near-infrared light there through in high beam mode, and means for removing the visible-light blocking means from radiation direction of the metal vapor discharge lamp a low beam mode.

Regarding claim 17, Anzai discloses the projector according to claim 16, but does not expressly disclose that the projector is installed in a vehicle and used as headlamp, as claimed by Applicant. It would have been obvious to one having ordinary skill in the art at the time of invention was made to have the projector installed in a vehicle to use as a headlamp since it is known in the art that discharge lamps are commonly used in headlamps.

Regarding claim 18, Anzai discloses the projector according to claim 17, wherein the visible-light blocking filter blocks visible light and passes near-infrared light there through in a high beam mode, and further including means for removing the visible-light blocking filter from radiation direction of the metal vapor discharge lamp in a low beam mode (column 6, lines 1-9).

Regarding claim 19, Anzai discloses a metal vapor discharge lamp lighting device including: a metal vapor discharge lamp (FIG. 6, item 4) as specified any of claims 1 to 12; and a lighting circuit (column 7, lines 48-60), but does not expressly disclose that it supplies a current three times or more a rated lamp current after the metal vapor discharge lamp is lit, and reduces the current with a lapse of time, as claimed by Applicant. It would have been obvious to one having ordinary skill in the art



at the time of invention was made to have the circuitry system supply certain currents, then having the current lapsing after time has passed to save energy since it is known in the art that current must be provided for the lighting device to work properly.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

nkW

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1/27/06

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VIP PATEL  
PRIMARY EXAMINER